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| U.S. DEPARTMENT OF TRANSPORTATION FEDERAL AVIATION ADMINISTRATION TYPE CERTIFICATE DATA SHEET E00059EN | TCDS NUMBER E00059EN REVISION: ORIGINAL* DATE: JULY 18, 1997 PRATT & WHITNEY CANADA, INC MODELS: PW545A |
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Engines of models described herein conforming with this data sheet (which is part of Type Certificate Number E00059EN) and other approved data on file with the Federal Aviation Administration, meet the minimum standards for use in certificated aircraft in accordance with pertinent aircraft data sheets and applicable portions of the Federal Aviation Regulations, provided they are installed, operated, and maintained as prescribed by the approved manufacturer's manuals and other approved instructions.

TYPE CERTIFICATE (TC) HOLDER: Pratt & Whitney Canada, Inc.
 1000 Marie-Victorin
 Longueuil, Quebec
 Canada J4G 1A1

MODELS I.
 TYPE

| PW545A | | | | |
|--|--|--|--|--|
| Twin spool with a low pressure compressor consisting of a single stage integrally bladed fan and one axial boost stage, a high pressure compressor consisting of two axial stages and one centrifugal compressor stage, one stage high pressure turbine, three stage low pressure turbine, annular reverse-flow combustor and full length annular bypass duct. | | | | |
| 3,640 3,786 | | | | |
| 13,034 32,700 | | | | |

THRUST RATING, POUNDS
 (See NOTE 1)
 Maximum continuous at sea level
 Takeoff (5 min.) at sea level
 ENGINE SPEED LIMITATIONS, RPM
 (See NOTE 3 and also refer to
 Installation Manual for transients)
 Max steady state low rotor (N1)
 Max steady state high rotor (N2)

INTERTURBINE TEMPERATURE

MODELS:

Takeoff (5 min.)
 Maximum continuous
 Starting (5 sec.)
 Transient (20 sec.)

(Also see Installation Manual)

| °F/°C | | | | |
|----------|--|--|--|--|
| PW545A | | | | |
| 1328/720 | | | | |
| 1328/720 | | | | |
| 1328/720 | | | | |
| 1400/760 | | | | |

OIL INLET TEMPERATURE

MODELS:

Maximum
 Minimum
 Transient maximum (120 sec.)

| °F/°C | | | | |
|---------|--|--|--|--|
| PW545A | | | | |
| 250/121 | | | | |
| -40/-40 | | | | |
| 275/135 | | | | |

MAXIMUM ACCESSORY TEMP.

The engine compartment shall be ventilated as necessary to keep the air temperature surrounding accessory components from exceeding the limits defined in the Installation Manual.

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| REV. | | | | | | | | |

LEGEND: "- ." INDICATES "SAME AS PRECEDING MODEL"
 "----" NOT APPLICABLE

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| AIR BLEED, MODELS: | PW545A | | | | |
| A. High compressor bleed. Maximum external bleed air available is: | 45 pounds per hour (pph) at sea level, decreasing linearly to 29 pph at 40,000 ft, then decreasing linearly to 27 pph at 45,000 ft. | | | | -- |
| B. During starting: | Bleed air not permitted | | | | -- |
| C. Bleed air contamination meets: | Para 3.1.2.11.3 of MIL-E-5007E | | | | -- |

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| FUEL / ALL MODELS Fuel Bleed | Fuel from pump delivery may be extracted to drive jet or turbine pumps in the airplane fuel system. Refer to Installation Manual. |
| Fuel Pressure | Refer to Installation Manual. |
| Fuel temperature | Maximum fuel pump inlet temperature for starting and operating is 135°F(57°C) at sea level; minimum inlet temperature is -48°F(-44°C), for typical kerosene type fuels. Refer to Installation Manual for additional information. |
| Fuel type (Also see NOTE 2) | Fuels and additives conforming with the specifications additives are listed in P&WC Maintenance Manual P/N 30J1272 are approved for use. |

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| FUEL COMPONENTS | INTEGRAL FUEL PUMP/CONTROL | FUEL FLOW DIVIDER | ELECTRONIC ENGINE CONTROL |
| PW545A | PWC P/N | PWC P/N | pwc p/n 30J1594-04 |

[illegible]

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| ACCESSORY DRIVES | The following apply to the accessory drives, which are provided by the engine and included in the basic engine weight: | | | | | |
| | DRIVE | ROTATION | SPEED RATIO TO TURBINE SHAFT | MAXIMUM TORQUE (in. - lb.) | | MAXIMUM OVERHANG (in.-lb.) |
| | | | | CONTINUOUS | STATIC | |
| | DRIVEN BY HIGH ROTOR | | | | | |
| | Hydraulic pump | CW | .1280:1 | 225 | 1600 | 40 |
| | Starter generator | CW | .3633:1 | 240 | 1600 | 210 |
| *CW - Clockwise facing accessory pad. | | | | | | |
| Total accessory power limit is 22.5 hp. at 50% N2, increasing linearly to 30 hp. at 100% N2. Refer to Installation Manual for restrictions above 20,000 ft. altitude and allowable 5 minute emergency accessory power extraction. Also see NOTE 2. | | | | | | |

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| IGNITION | MODELS PW545A |
| Exciter Unison | PWC P/N 31J2807-01A |
| Igniter plug Unison | PWC P/N 31J1552-01 |

PRINCIPAL DIMENSIONS Refer to Installation Drawing in approved Installation Manual.

C. G. LOCATION Refer to Installation Drawing in approved Installation Manual.

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| CERTIFICATION BASIS | |
| Models PW545A | FAR 21.29, FAR 33, Amendments 1 through 15 inclusive, effective August 16, 1993, and FAR 34 effective September 10, 1990. |

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| MODEL | TYPE CERTIFICATE NUMBER E00059EN | | |
| | APPLIED FOR | ISSUED/ REVISED | DELETED |
| PW545A | 08/25/95 | | |

IMPORT REQUIREMENTS: To be considered eligible for installation on United States (U.S.) registered aircraft, each engine to be exported to the U.S. shall be accompanied by a certificate of airworthiness for export or by a certifying statement, endorsed by the exporting cognizant civil airworthiness authority which contains the following language:

- (1) This engine conforms to its Type Certificate Number and is in a condition for safe operation.
- (2) This engine has been subjected by the manufacturer to a final operational check and is in a proper state of airworthiness.

Reference FAR Section 21.500, which provides for the airworthiness acceptance of aircraft engines manufactured outside of the U.S. and for which a U.S. type certificate has been issued. Additional guidance is contained in FAA Advisory Circular 21-23, "Airworthiness Certification of Civil Aircraft, Engines, Propellers, and Related Products Imported into the United States."

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| NOTES |
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- NOTE 1. The engine ratings are based on static sea level conditions:
- Compressor inlet air (dry) 83°F, at takeoff and at max. continuous.
- 29.92 in. Hg.
- No accessory loads or air bleed.
- Engine intake and exhaust as described in the Department of Transport, Canada, approved Installation Manual.
- NOTE 2. The starter/generator pad may be overloaded in an emergency to a torque of 340 in.-lb. for periods up to 5 minutes, subject to total accessory power not exceeding 40 hp. This can recur at 4 hour intervals. Refer to Installation Manual for restrictions above 10,000 feet altitude.
- NOTE 3. Minimum permissible flight idle N2 is 16841 RPM (51.5%).
- NOTE 4. Certain engine parts are life limited. For PW545A engines, these life limits are listed in P&WC Maintenance Manual P/N 30J1272.
- NOTE 5. Permissible overhaul and inspection intervals are listed in P&WC Maintenance Manual P/N 30J1272.
- NOTE 6. Overhauls are not permitted until issuance of the DOT-approved Overhaul Manual. Engines may be returned to Pratt & Whitney Canada for re-manufacture to new production standard.
- NOTE 7. Service bulletins, structural repair manuals, vendor manuals, aircraft flight manuals, and overhaul and maintenance manuals, which contain a statement that the document is Transport Canada-approved, are accepted by the FAA and are considered FAA-approved unless otherwise noted. These approvals pertain to the type design only.

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